

09/419,901
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(FILE 'HOME' ENTERED AT 18:33:00 ON 22 JUN 2005)

FILE 'BIOSIS, CAPLUS, EMBASE, MEDLINE, CANCERLIT, JAPIO' ENTERED AT
18:33:21 ON 22 JUN 2005

L1	1100 S (MUSCLE DAMAGE) AND PROTEIN
L2	97 S L1 AND REVIEW?
L3	65 DUPLICATE REMOVE L2 (32 DUPLICATES REMOVED)
L4	16 S L3 AND CARDI?
L5	12 S L3 AND MARKER?
L6	12 DUPLICATE REMOVE L5 (0 DUPLICATES REMOVED)
L7	5 S L6 NOT L4
L8	68 S (MUSCLE MARKER?) AND REVIEW
L9	24 DUPLICATE REMOVE L8 (44 DUPLICATES REMOVED)

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ANSWER 20 OF 24 CAPLUS COPYRIGHT 2005 ACS on STN

AN 1996:172781 CAPLUS

DN 124:256308

ED Entered STN: 26 Mar 1996

TI Muscle proteins

AU Larue, Catherine

CS Sanofi Diagnostics Pasteur Inc., Chaska, MN, USA

SO Structure of Antigens (1996), Volume 3, 183-219. Editor(s): Van Regenmortel, M. H. V. Publisher: CRC, Boca Raton, Fla.
CODEN: 57YWAS

DT Conference; General Review

LA English

CC 13-0 (Mammalian Biochemistry)

AB A **review** with approx. 150 refs. on various muscle proteins, including myosin, actin, and regulatory proteins. Topics discussed include structure, isoforms, antigenicity, variation, **muscle markers**, and diagnosis of muscle tumors and neuromuscular diseases.

ST **review** protein muscle

IT Muscle
(structure, isoforms, antigenicity, and variation of proteins in muscle)

IT Proteins, biological studies
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(structure, isoforms, antigenicity, and variation of proteins in muscle)

on STN

AN 1999255218 EMBASE

TI Skeletal muscle injury induced by eccentric muscle action: Muscle **proteins as markers** of muscle fiber injury.

AU Sorichter S.; Puschendorf B.; Mair J.

CS Dr. S. Sorichter, Universitätsklinikum Freiburg, Abteilung für Pneumologie, Hugstetter Strasse 55, 79106 Freiburg, Germany

SO Exercise Immunology Review, (1999) Vol. 5, pp. 5-21.

Refs: 100

ISSN: 1077-5552 CODEN: EIREFY

CY United States

DT Journal; General Review

FS 002 Physiology

LA English

SL English

ED Entered STN: 19990812

Last Updated on STN: 19990812

AB Muscular overuse after high force eccentric muscle action is associated with structural damage of the contractile apparatus that can be observed as Z-line streaming and myofibrillar disruption. Mechanical stress is the major contributing factor for inducing muscle injury, which initiates a cascade of processes resulting in skeletal **muscle damage**

. Disturbances in Ca²⁺ homeostasis with elevated intracellular [Ca²⁺] activates the nonlysosomal cysteine protease, calpain. Calpain is assumed to play an important role in triggering the response of skeletal muscle **protein** breakdown, of inflammatory changes, and of regeneration processes in response to eccentric muscle action. The inflammatory response is attributed to changes in hormone and cytokine levels in blood and skeletal muscle. To assess the amount of skeletal **muscle damage**, plasma CK activity and plasma myoglobin levels have been widely used as **markers** for muscle injury. As the cytosolic **proteins** do not necessarily reflect the amount of structural damage, structurally bound **proteins** such as myosin heavy chains and troponin have been investigated. This paper briefly **reviews** the cascade of events causing muscle cell injury after unaccustomed eccentric muscle action and the potential of muscle **proteins as markers** of skeletal **muscle damage**.

CT Medical Descriptors:

*skeletal muscle

*muscle contraction

*muscle injury

muscle fibril

mechanical stress

calcium homeostasis

cytokine release

muscle strength

cell infiltration

nuclear magnetic resonance imaging

review

Drug Descriptors:

*troponin

*myosin heavy chain

*myoglobin

calcium

calpain

cysteine proteinase

muscle protein

aspartate aminotransferase: EC, endogenous compound

lactate dehydrogenase: EC, endogenous compound

creatine kinase: EC, endogenous compound

fatty acid binding protein: EC, endogenous compound

RN (calcium) 7440-70-2; (calpain) 78990-62-2; (cysteine proteinase)

37353-41-6; (aspartate aminotransferase) 9000-97-9; (lactate dehydrogenase) 9001-60-9; (creatine kinas

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AN 1996:82511 CAPLUS
 DN 124:197264
 ED Entered STN: 08 Feb 1996
 TI Noninvasive quantification of organ damage
 AU Lefebvre, H. P.; Braun, J. P.; Laroute, V.; Tripodi, A.; Bret, L.;
 Toutain, P. L.
 CS Departement des Sciences Biologiques et Fonctionnelles, Ecole Nationale
 Veterinaire, Toulouse, 31076, Fr.
 SO Comparative Haematology International (1995), 5(2), 120-4
 CODEN: CHAIEJ; ISSN: 0938-7714
 PB Springer
 DT Journal; General Review
 LA English
 CC 9-0 (Biochemical Methods)
 Section cross-reference(s): 14
 AB A **review** and discussion with 23 refs. Quant. evaluation of
 organ damage can be achieved by noninvasive, direct or indirect methods.
 Direct methods include echog., tomog., scintigraphy and magnetic
 resonance. The accuracy of these imaging techniques has been demonstrated
 in human medicine. Most of them have not been validated in animals,
 however, and their use is limited by cost. Indirect methods are based on
 determination of the total release of intracellular markers (mainly enzymes)

into

body fluids. Quantification of organ damage depends on extracellular
 disposition of the marker. Thus, in the kidney, the marker is directly
 and totally leaked into the urine and is voided at each micturition. The
 amount of marker eliminated in this way allows easy quantification of organ
 damage occurring during the period preceding the micturition.

Muscle markers with mol. wts. >50 kDa reach the blood
 via the lymph. This results in (a) partial inactivation, (b) delay
 between cell damage and increased plasma concentration and (c) accumulation in
 the plasma as long as delivery into the plasma exceeds clearance. In such
 cases, quant. evaluation requires pharmacokinetic tools and calcn. of the
 area under the curve (concentration vs. time) and of the plasma clearance.
 Comparison of the intensity and chronol. of markers located in different
 cell compartments may contribute to the understanding of pathophysiol.
 events.

ST **review** organ damage noninvasive detn clin; kidney damage
 noninvasive detn **review**; muscle damage noninvasive detn

review

IT Animal tissue

Organ

(damage; noninvasive quantification of organ damage)

IT Imaging

(noninvasive quantification of organ damage)

IT Analysis

(clin., noninvasive quantification of organ damage)

IT Kidney, disease

Muscle, disease

(injury, noninvasive quantification of organ damage)

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 noninvasive detn **review**; muscle damage noninvasive detn

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(damage; noninvasive quantification of organ damage)

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IT Kidney, disease

Muscle, disease

(injury, noninvasive quantification of organ damage)